



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3500

JUL 26 2018

REPLY TO THE ATTENTION OF
WC-15J

CERTIFIED MAIL 7016 3560 0000 4829 8993
RETURN RECEIPT REQUESTED

Ex. 6 Personal Privacy (PP)

Nekoosa, Wisconsin 54457

Dear **Ex. 6 Personal Privacy (PP)**:

As you recall, the U.S. Environmental Protection Agency collected tap water samples from your residence on October 24, 2017. When the EPA results were received from the October 24, 2017 sampling, we communicated the results to you by phone and e-mail. EPA's Regional Laboratory analyzed the samples for; nitrate-nitrite, ammonia-nitrogen, total kjedahl nitrogen, and total phosphorus as referenced in Attachment A. Since, the laboratory reported all the results of samples collected on that day in one report, you must locate the results for your property under S15 (1710017-16). The attached laboratory reports show that the nitrate-nitrite results for your drinking water samples were at 5.44 milligrams per liter (mg/L), which is below EPA's Maximum Contaminant Level (MCL) of 10 mg/L for nitrate-nitrite in drinking water. The Wisconsin State Laboratory of Hygiene analyzed the samples for *E.coli* and total coliform referenced in Attachment B. *E.coli* and total coliform were non-detect and the other parameters do not have drinking standards associated with them.

Juneau County and Wood County Health Departments have recently conducted additional sampling for nitrates in residential wells in your area. The Juneau County Health Department is interested in comparing sample results collected by EPA with the data collected by the county. To protect your privacy, EPA generally does not release sample results documents to the general public or other agencies that include residential addresses where those samples were collected. If you are willing to share your results with the Health Department, please contact Barb Theis with Juneau County Health Department. Ms. Theis can be reached at (608) 847-9373 or btheis@co.juneau.wi.us.

To learn more about nitrate in drinking water and what you can do to protect yourself and your family from high levels of nitrate, see the attached April 2018 factsheet from the Wisconsin Department of Health Services as well as the attached brochure from the Wisconsin Department of Natural Resources.

If you have any technical questions regarding these results, please contact EPA's Cheryl Burdett at (312) 886-1463 or burdett.cheryl@epa.gov. If you have any questions on health-related issues, you may contact your personal physician or Barb Theis of the Juneau County Health Department at the contact information above. You may also contact Ms. Theis with any questions about Juneau County's sampling efforts.

ATTACHMENTS:

- A. United States Environmental Protection Agency Region 5 Chicago Regional Laboratory Reports
- B. Wisconsin State Laboratory of Hygiene Laboratory Report
- C. June 15, 2018 Press Release from Wood and Juneau County Health and Land and Water Resource Departments: "High Nitrate in Private Drinking Wells"
- D. April 2018 Fact Sheet from the Wisconsin Department of Health Services: "Nitrate in Private Well Water"
- E. Brochure from the Wisconsin Department of Natural Resources: "Nitrate in Drinking Water"

ATTACHMENT A

**United States Environmental
Protection Agency Region 5 Chicago
Regional Laboratory Reports**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CHICAGO REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

Date: 12/8/2017
Subject: Review of Region 5 Data for CSD
To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
From: Anna Knoebel, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X  Digitally signed by Anna Knoebel
Date: 2017.12.08 13:29:35 -06'00'

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: CSD

Data Coordinator and Date Transmitted

Analyses included in this report:

Nitrate-Nitrite N DA, Enzymatic reduction



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone: (312) 353-8370 Fax: (312) 886-2591

Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

ANALYSIS CASE NARRATIVE – Nitrate-Nitrite Nitrogen in Water

Work Order: 1710017
Analyst: Anna Knoebel
Phone #: (312) 353-9467

General Information

Twenty-three water samples for Nitrate-Nitrite Nitrogen were received on October 26, 2017. All holding times were met.

Sample Analysis and Results

The samples were analyzed for Nitrate-Nitrite Nitrogen in water on November 16 – 17, 2017 using CRL SOP AIG031B, Version # 3 (SOP based on ASTM D7781-14). The samples were stored in the refrigerator at all times except when in use.

A new SOP (AIG031B) which follows ASTM method D7781-14 (*Standard Test Method for Nitrate-Nitrite in Water by Nitrate Reductase*) was added in August of 2015. This method is different than the method referenced in the sampling QAPP “FY 2017 General Field Sampling Plan 02132017.” The data reported herein meets any laboratory specifications referenced in the sampling QAPP, sampling plan “2015 General Field Sampling Plan 040715,” and the requirements referenced in CRL SOP AIG031B, Version # 3 (based on ASTM D7781-14) except for those listed in the quality control section below.

Quality Control

Matrix Spike (MS)

The matrix spike recovery for sample 1710017-01 (S01) was below the acceptance limit (70 – 125 %). The blank spike (BS) recoveries (105 – 109 %) and other QC audit recoveries were within the CRL limits. The sample and spike were diluted tenfold, as a result the spike was diluted out and the sample was not qualified on this basis.

All other quality control audits were within CRL limits or did not result in qualification of the data



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Chicago Regional Laboratory

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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|-----------------|-----------------|
| S01 | 1710017-01 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| D01 | 1710017-02 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| B01 | 1710017-03 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| S02 | 1710017-04 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| B02 | 1710017-05 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| D02 | 1710017-06 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| S03 | 1710017-07 | Water | Oct-24-17 09:53 | Oct-26-17 08:09 |
| S04 | 1710017-08 | Water | Oct-24-17 10:30 | Oct-26-17 08:09 |
| S05 | 1710017-09 | Water | Oct-24-17 10:48 | Oct-26-17 08:09 |
| S07 | 1710017-10 | Water | Oct-24-17 12:07 | Oct-26-17 08:09 |
| S08 | 1710017-11 | Water | Oct-24-17 09:33 | Oct-26-17 08:09 |
| S12 | 1710017-12 | Water | Oct-24-17 11:48 | Oct-26-17 08:09 |
| S18 | 1710017-13 | Water | Oct-25-17 10:39 | Oct-26-17 08:09 |
| S19 | 1710017-14 | Water | Oct-25-17 10:58 | Oct-26-17 08:09 |
| S06 | 1710017-15 | Water | Oct-24-17 09:15 | Oct-26-17 08:09 |
| S15 | 1710017-16 | Water | Oct-24-17 10:09 | Oct-26-17 08:09 |
| S14 | 1710017-17 | Water | Oct-24-17 12:53 | Oct-26-17 08:09 |
| S20 | 1710017-18 | Water | Oct-24-17 12:30 | Oct-26-17 08:09 |
| S22 | 1710017-19 | Water | Oct-25-17 08:38 | Oct-26-17 08:09 |
| S16 | 1710017-20 | Water | Oct-25-17 09:22 | Oct-26-17 08:09 |
| S17 | 1710017-21 | Water | Oct-25-17 10:02 | Oct-26-17 08:09 |
| B03 | 1710017-22 | Water | Oct-25-17 09:46 | Oct-26-17 08:09 |
| D03 | 1710017-23 | Water | Oct-25-17 10:09 | Oct-26-17 08:09 |



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Chicago Regional Laboratory

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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

Nitrate-Nitrite Nitrogen, Nitrate Reductase, ASTM D7781 - 14 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1710017-01) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 37.8 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-16-17 |

D01 (1710017-02) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 37.3 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

B01 (1710017-03) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | U | U | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

S02 (1710017-04) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 35.2 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

B02 (1710017-05) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | U | U | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

D02 (1710017-06) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 34.8 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S03 (1710017-07) Matrix: Water Sampled: Oct-24-17 09:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 5.50 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------|--------|-----------------------|-----|--------------------|-------|----------|-------|----------|----------|
| | | | | | | | | | |



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone: (312) 353-8370 Fax: (312) 886-2591

Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

Nitrate-Nitrite Nitrogen, Nitrate Reductase, ASTM D7781 - 14 (modified)
US EPA Region 5 Chicago Regional Laboratory

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S04 (1710017-08) | | Matrix: Water | Sampled: Oct-24-17 10:30 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 0.41 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S05 (1710017-09) | | Matrix: Water | Sampled: Oct-24-17 10:48 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 0.10 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S07 (1710017-10) | | Matrix: Water | Sampled: Oct-24-17 12:07 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 8.59 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S08 (1710017-11) | | Matrix: Water | Sampled: Oct-24-17 09:33 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 4.83 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S12 (1710017-12) | | Matrix: Water | Sampled: Oct-24-17 11:48 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 0.23 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-16-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S18 (1710017-13) | | Matrix: Water | Sampled: Oct-25-17 10:39 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 4.29 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-17-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S19 (1710017-14) | | Matrix: Water | Sampled: Oct-25-17 10:58 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 0.34 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-17-17 |

| | | | | | | | | | |
|-------------------|--------|-----------------------|--------------------------|--------------------|---------------------------|----------|---------|-----------|-----------|
| S06 (1710017-15) | | Matrix: Water | Sampled: Oct-24-17 09:15 | | Received: Oct-26-17 08:09 | | | | |
| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
| Nitrate-Nitrite N | 10.1 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

| | | | | | | | | | |
|------------------|--|---------------|--------------------------|--|---------------------------|--|--|--|--|
| S15 (1710017-16) | | Matrix: Water | Sampled: Oct-24-17 10:09 | | Received: Oct-26-17 08:09 | | | | |
|------------------|--|---------------|--------------------------|--|---------------------------|--|--|--|--|



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

Nitrate-Nitrite Nitrogen, Nitrate Reductase, ASTM D7781 - 14 (modified)
US EPA Region 5 Chicago Regional Laboratory

S15 (1710017-16) Matrix: Water Sampled: Oct-24-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 5.44 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S14 (1710017-17) Matrix: Water Sampled: Oct-24-17 12:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 28.2 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S20 (1710017-18) Matrix: Water Sampled: Oct-24-17 12:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 23.9 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S22 (1710017-19) Matrix: Water Sampled: Oct-25-17 08:38 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 28.4 | | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

S16 (1710017-20) Matrix: Water Sampled: Oct-25-17 09:22 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 0.49 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-17-17 |

S17 (1710017-21) Matrix: Water Sampled: Oct-25-17 10:02 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 0.66 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-17-17 |

B03 (1710017-22) Matrix: Water Sampled: Oct-25-17 09:46 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | U | U | 0.40 | 1.00 | mg/L | 10 | B17K020 | Nov-16-17 | Nov-17-17 |

D03 (1710017-23) Matrix: Water Sampled: Oct-25-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Nitrate-Nitrite N | 0.65 | | 0.04 | 0.10 | mg/L | 1 | B17K020 | Nov-16-17 | Nov-17-17 |



Environmental Protection Agency Region 5
Chicago Regional Laboratory

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77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 13:25

Notes and Definitions

- J The identification of the analyte is acceptable, the reported value is an estimate.
- U Not Detected
- NR Not Reported
- Q QC limit Exceeded



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605



LABORATORY
ACCREDITATION
BUREAU

ACCREDITED ISO/IEC 17025

Certificate # L2260 Testing

Date: 12/8/2017

Subject: Review of Region 5 Data for CSD

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Anna Knoebel, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X

Digitally signed by Anna Knoebel
Date: 2017.12.08 09:39:00 -06'00'

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: CSD

Data Coordinator and Date Transmitted

Analyses included in this report:

Ammonia N DA, Distilled



Environmental Protection Agency Region 5
Chicago Regional Laboratory

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Phone: (312) 353-8370 Fax: (312) 886-2591

Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 09:32

ANALYSIS CASE NARRATIVE – Distilled Ammonia Nitrogen in Water

Work Order: 1710017
Analyst: Anna Knoebel
Phone #: (312) 353-9467

General Information

Twenty-three water samples for Ammonia Nitrogen were received on October 26, 2017. All holding times were met.

Sample Analysis and Results

The samples were distilled and analyzed on November 17 & 20, 2017 for Ammonia Nitrogen in water using CRL SOP AIG029B, Version # 5 (based on method 4500 – NH₃- B & H). The samples were stored in the refrigerator at all times, except when in use.

The data reported herein meets any laboratory specifications referenced in the sampling QAPP “FY 2017 General Field Sampling Plan 02132017” and “2014 reporting request for CAFO samples 062014.” The data reported herein also meets the requirements referenced in CRL SOP AIG029B, Version # 5 (based on method 4500 – NH₃- B & H).

Quality Control

All quality control audits were within CRL limits or did not result in qualification of the data.



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77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 09:32

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|-----------------|-----------------|
| S01 | 1710017-01 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| D01 | 1710017-02 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| B01 | 1710017-03 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| S02 | 1710017-04 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| B02 | 1710017-05 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| D02 | 1710017-06 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| S03 | 1710017-07 | Water | Oct-24-17 09:53 | Oct-26-17 08:09 |
| S04 | 1710017-08 | Water | Oct-24-17 10:30 | Oct-26-17 08:09 |
| S05 | 1710017-09 | Water | Oct-24-17 10:48 | Oct-26-17 08:09 |
| S07 | 1710017-10 | Water | Oct-24-17 12:07 | Oct-26-17 08:09 |
| S08 | 1710017-11 | Water | Oct-24-17 09:33 | Oct-26-17 08:09 |
| S12 | 1710017-12 | Water | Oct-24-17 11:48 | Oct-26-17 08:09 |
| S18 | 1710017-13 | Water | Oct-25-17 10:39 | Oct-26-17 08:09 |
| S19 | 1710017-14 | Water | Oct-25-17 10:58 | Oct-26-17 08:09 |
| S06 | 1710017-15 | Water | Oct-24-17 09:15 | Oct-26-17 08:09 |
| S15 | 1710017-16 | Water | Oct-24-17 10:09 | Oct-26-17 08:09 |
| S14 | 1710017-17 | Water | Oct-24-17 12:53 | Oct-26-17 08:09 |
| S20 | 1710017-18 | Water | Oct-24-17 12:30 | Oct-26-17 08:09 |
| S22 | 1710017-19 | Water | Oct-25-17 08:38 | Oct-26-17 08:09 |
| S16 | 1710017-20 | Water | Oct-25-17 09:22 | Oct-26-17 08:09 |
| S17 | 1710017-21 | Water | Oct-25-17 10:02 | Oct-26-17 08:09 |
| B03 | 1710017-22 | Water | Oct-25-17 09:46 | Oct-26-17 08:09 |
| D03 | 1710017-23 | Water | Oct-25-17 10:09 | Oct-26-17 08:09 |



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone: (312) 353-8370 Fax: (312) 886-2591

Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 09:32

Ammonia Nitrogen, SM4500B & H (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1710017-01) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

D01 (1710017-02) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

B01 (1710017-03) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S02 (1710017-04) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

B02 (1710017-05) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

D02 (1710017-06) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S03 (1710017-07) Matrix: Water Sampled: Oct-24-17 09:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|---------|--------|-----------------------|-----|--------------------|-------|----------|-------|----------|----------|
|---------|--------|-----------------------|-----|--------------------|-------|----------|-------|----------|----------|



Environmental Protection Agency Region 5
Chicago Regional Laboratory

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Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 09:32

Ammonia Nitrogen, SM4500B & H (modified)
US EPA Region 5 Chicago Regional Laboratory

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S05 (1710017-09) Matrix: Water Sampled: Oct-24-17 10:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S07 (1710017-10) Matrix: Water Sampled: Oct-24-17 12:07 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S08 (1710017-11) Matrix: Water Sampled: Oct-24-17 09:33 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S12 (1710017-12) Matrix: Water Sampled: Oct-24-17 11:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S18 (1710017-13) Matrix: Water Sampled: Oct-25-17 10:39 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

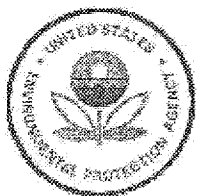
S19 (1710017-14) Matrix: Water Sampled: Oct-25-17 10:58 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.30 | mg/L | 1 | B17K022 | Nov-17-17 | Nov-17-17 |

S06 (1710017-15) Matrix: Water Sampled: Oct-24-17 09:15 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S15 (1710017-16) Matrix: Water Sampled: Oct-24-17 10:09 Received: Oct-26-17 08:09



Environmental Protection Agency Region 5
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Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-08-17 09:32

Ammonia Nitrogen, SM4500B & H (modified)

US EPA Region 5 Chicago Regional Laboratory

S15 (1710017-16)

Matrix: Water

Sampled: Oct-24-17 10:09

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S14 (1710017-17)

Matrix: Water

Sampled: Oct-24-17 12:53

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S20 (1710017-18)

Matrix: Water

Sampled: Oct-24-17 12:30

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S22 (1710017-19)

Matrix: Water

Sampled: Oct-25-17 08:38

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S16 (1710017-20)

Matrix: Water

Sampled: Oct-25-17 09:22

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | 0.26 | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

S17 (1710017-21)

Matrix: Water

Sampled: Oct-25-17 10:02

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

B03 (1710017-22)

Matrix: Water

Sampled: Oct-25-17 09:46

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |

D03 (1710017-23)

Matrix: Water

Sampled: Oct-25-17 10:09

Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|--------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Ammonia as N | U | | 0.12 | 0.20 | mg/L | 1 | B17K024 | Nov-20-17 | Nov-20-17 |



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Reported:
Dec-08-17 09:32



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Project: CSD
Project Number: 01CB2018
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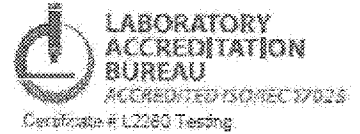
Reported:
Dec-08-17 09:32

Notes and Definitions

- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported
- Q QC limit Exceeded



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CHICAGO REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605



Date: 12/12/2017
Subject: Review of Region 5 Data for CSD
To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
From: Nidia Fuentes, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Nidia Fuentes 12/12/17

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: CSD

Data Coordinator and Date Transmitted

Analyses included in this report:

TKN DA

Total Phosphorus DA



Environmental Protection Agency Region 5
Chicago Regional Laboratory

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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Analysis Case Narrative

General Information

A total of 23 water sample to be analyzed for Total Phosphorus (TP) were received at the Chicago Regional Laboratory on October 26, 2017. The samples were analyzed within the holding time. The designated analyst for the samples is Nidia Fuentes. Nidia can be reached at 312-353-9079.

Sample Analysis and Results

The data reported herein meets any laboratory specifications referenced in the sampling "FY 2017 General Field Sampling Plan 02132017" and the limits referenced in CRL SOP AIG034B Version #4 (based on EPA method 365.4).

Quality Control

All quality control audits were within the CRL's limits.



Environmental Protection Agency Region 5
Chicago Regional Laboratory

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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Analysis Case Narrative

General Information

A total of 23 water samples, to be analyzed for Total Kjeldahl Nitrogen (TKN), were received at the Chicago Regional Laboratory on October 26, 2017. The samples were digested and analyzed using CRL SOP AIG035B, Version #6 (based on EPA method 351.2). All holding times were met. The designated analyst for these samples is Nidia Fuentes. Nidia can be reached at 312-353-9079.

Sample Analysis and Results

The data reported herein meets any laboratory specifications referenced in the sampling "FY 2017 General Field Sampling Plan 02132017", and the limits referenced in CRL SOP AIG035B Version #6 (based on EPA method 351.2).

Quality Control

All quality control audits were within the CRL limits, with the exception of one out of three sample matrix spike.

Sample 1710017-21 (S17) spike recovery (120%) was out of the limit of 90 to 100%. Sample result was flagged "K" meaning: The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.



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Chicago Regional Laboratory

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Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|-----------------|-----------------|
| S01 | 1710017-01 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| D01 | 1710017-02 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| B01 | 1710017-03 | Water | Oct-23-17 13:31 | Oct-26-17 08:09 |
| S02 | 1710017-04 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| B02 | 1710017-05 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| D02 | 1710017-06 | Water | Oct-24-17 08:50 | Oct-26-17 08:09 |
| S03 | 1710017-07 | Water | Oct-24-17 09:53 | Oct-26-17 08:09 |
| S04 | 1710017-08 | Water | Oct-24-17 10:30 | Oct-26-17 08:09 |
| S05 | 1710017-09 | Water | Oct-24-17 10:48 | Oct-26-17 08:09 |
| S07 | 1710017-10 | Water | Oct-24-17 12:07 | Oct-26-17 08:09 |
| S08 | 1710017-11 | Water | Oct-24-17 09:33 | Oct-26-17 08:09 |
| S12 | 1710017-12 | Water | Oct-24-17 11:48 | Oct-26-17 08:09 |
| S18 | 1710017-13 | Water | Oct-25-17 10:39 | Oct-26-17 08:09 |
| S19 | 1710017-14 | Water | Oct-25-17 10:58 | Oct-26-17 08:09 |
| S06 | 1710017-15 | Water | Oct-24-17 09:15 | Oct-26-17 08:09 |
| S15 | 1710017-16 | Water | Oct-24-17 10:09 | Oct-26-17 08:09 |
| S14 | 1710017-17 | Water | Oct-24-17 12:53 | Oct-26-17 08:09 |
| S20 | 1710017-18 | Water | Oct-24-17 12:30 | Oct-26-17 08:09 |
| S22 | 1710017-19 | Water | Oct-25-17 08:38 | Oct-26-17 08:09 |
| S16 | 1710017-20 | Water | Oct-25-17 09:22 | Oct-26-17 08:09 |
| S17 | 1710017-21 | Water | Oct-25-17 10:02 | Oct-26-17 08:09 |
| B03 | 1710017-22 | Water | Oct-25-17 09:46 | Oct-26-17 08:09 |
| D03 | 1710017-23 | Water | Oct-25-17 10:09 | Oct-26-17 08:09 |



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Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Phosphorus, Colorimetric, EPA 365.4 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1710017-01) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.04 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

D01 (1710017-02) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

B01 (1710017-03) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S02 (1710017-04) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

B02 (1710017-05) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

D02 (1710017-06) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.30 | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S03 (1710017-07) Matrix: Water Sampled: Oct-24-17 09:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|-----|--------------------|-------|----------|-------|----------|----------|
| Total Phosphorus | | | | | | | | | |



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Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Phosphorus, Colorimetric, EPA 365.4 (modified)

US EPA Region 5 Chicago Regional Laboratory

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S05 (1710017-09) Matrix: Water Sampled: Oct-24-17 10:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.04 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S07 (1710017-10) Matrix: Water Sampled: Oct-24-17 12:07 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S08 (1710017-11) Matrix: Water Sampled: Oct-24-17 09:33 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.05 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S12 (1710017-12) Matrix: Water Sampled: Oct-24-17 11:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S18 (1710017-13) Matrix: Water Sampled: Oct-25-17 10:39 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S19 (1710017-14) Matrix: Water Sampled: Oct-25-17 10:58 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.45 | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-03-17 |

S06 (1710017-15) Matrix: Water Sampled: Oct-24-17 09:15 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S15 (1710017-16) Matrix: Water Sampled: Oct-24-17 10:09 Received: Oct-26-17 08:09



Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Phosphorus, Colorimetric, EPA 365.4 (modified)

US EPA Region 5 Chicago Regional Laboratory

S15 (1710017-16) Matrix: Water Sampled: Oct-24-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S14 (1710017-17) Matrix: Water Sampled: Oct-24-17 12:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | U | | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S20 (1710017-18) Matrix: Water Sampled: Oct-24-17 12:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.04 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S22 (1710017-19) Matrix: Water Sampled: Oct-25-17 08:38 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.04 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S16 (1710017-20) Matrix: Water Sampled: Oct-25-17 09:22 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.09 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

S17 (1710017-21) Matrix: Water Sampled: Oct-25-17 10:02 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.11 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

B03 (1710017-22) Matrix: Water Sampled: Oct-25-17 09:46 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.06 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |

D03 (1710017-23) Matrix: Water Sampled: Oct-25-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Phosphorus | 0.10 | J | 0.04 | 0.15 | mg/L | 1 | B17K001 | Nov-01-17 | Nov-06-17 |



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Chicago IL 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Total Kjeldahl Nitrogen, EPA 351.2 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1710017-01) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.23 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-03-17 |

D01 (1710017-02) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.30 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

B01 (1710017-03) Matrix: Water Sampled: Oct-23-17 13:31 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S02 (1710017-04) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.38 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

B02 (1710017-05) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

D02 (1710017-06) Matrix: Water Sampled: Oct-24-17 08:50 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.31 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S03 (1710017-07) Matrix: Water Sampled: Oct-24-17 09:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.22 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S04 (1710017-08) Matrix: Water Sampled: Oct-24-17 10:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.20 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S05 (1710017-09) Matrix: Water Sampled: Oct-24-17 10:48 Received: Oct-26-17 08:09



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Chicago Regional Laboratory

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77 West Jackson Boulevard
Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Total Kjeldahl Nitrogen, EPA 351.2 (modified)
US EPA Region 5 Chicago Regional Laboratory

S05 (1710017-09) Matrix: Water Sampled: Oct-24-17 10:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-03-17 |

S07 (1710017-10) Matrix: Water Sampled: Oct-24-17 12:07 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.22 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S08 (1710017-11) Matrix: Water Sampled: Oct-24-17 09:33 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S12 (1710017-12) Matrix: Water Sampled: Oct-24-17 11:48 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S18 (1710017-13) Matrix: Water Sampled: Oct-25-17 10:39 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.36 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S19 (1710017-14) Matrix: Water Sampled: Oct-25-17 10:58 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.67 | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S06 (1710017-15) Matrix: Water Sampled: Oct-24-17 09:15 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.25 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S15 (1710017-16) Matrix: Water Sampled: Oct-24-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.20 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |



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Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Total Kjeldahl Nitrogen, EPA 351.2 (modified)
US EPA Region 5 Chicago Regional Laboratory

S14 (1710017-17) Matrix: Water Sampled: Oct-24-17 12:53 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.26 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S20 (1710017-18) Matrix: Water Sampled: Oct-24-17 12:30 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.25 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S22 (1710017-19) Matrix: Water Sampled: Oct-25-17 08:38 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.28 | J | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S16 (1710017-20) Matrix: Water Sampled: Oct-25-17 09:22 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 1.33 | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

S17 (1710017-21) Matrix: Water Sampled: Oct-25-17 10:02 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 1.01 | K | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-03-17 |

B03 (1710017-22) Matrix: Water Sampled: Oct-25-17 09:46 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | U | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |

D03 (1710017-23) Matrix: Water Sampled: Oct-25-17 10:09 Received: Oct-26-17 08:09

| Analyte | Result | Flags / Qualifiers | MDL | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed |
|-------------------------|--------|-----------------------|------|--------------------|-------|----------|---------|-----------|-----------|
| Total Kjeldahl Nitrogen | 0.92 | | 0.20 | 0.50 | mg/L | 1 | B17K002 | Nov-01-17 | Nov-02-17 |



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Water Division, US EPA Region 5
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Chicago IL, 60604

Project: CSD
Project Number: 01CB2018
Project Manager: Cheryl Burdett

Reported:
Dec-12-17 13:55

Notes and Definitions

- K The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
- J The identification of the analyte is acceptable; the reported value is an estimate.
- U Not Detected
- NR Not Reported
- Q QC limit Exceeded

ATTACHMENT B

**Wisconsin State Laboratory of
Hygiene Laboratory Report**



Wisconsin State
Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 350541001

Report To:

CHERYL BURDETT
ENVIRONMENTAL PROTECTION AGENCY
77 WEST JACKSON BLVD
CHICAGO, IL 60604

Invoice To:

JOAN ROGERS
77 WEST JACKSON BLVD
CHICAGO, IL 60604

Customer ID: 352275

Collection Date: 10/24/2017 10:09:00 AM

Owner:

Collected By: JOAN ROGERS

Well Completion Date:

Unique Well #: NA

Well Construction:

County: WOOD

Driller or Pump Installers License #:

Sampling Location:

Ex. 6 Personal Privacy (PP)

Sampling Point: KITCHEN TAP

Date Received: 10/24/2017

Date Reported: 10/25/2017

Sample Reason: INVESTIGATION

Microbiology

| Analyte | Analysis Method | Result | Units | LOD | LOQ |
|----------------------------------|------------------------|--------|------------|-----|-----|
| Prep Date 10/24/17 | Analysis Date 10/25/17 | | | | |
| Total Coliform - Colilert-MPN QT | SM9223BMPN | <1 | MPN/100 mL | | 1 |
| E. Coli - Colilert-MPN QT | SM9223BMPN | <1 | MPN/100 mL | | 1 |

List of Abbreviations:

LOD = Level of detection

LOQ = Level of quantification

ND = None detected. Results are less than the LOD

F next to result = Result is between LOD and LOQ

Z next to result = Result is between 0 (zero) and LOD

If LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see <http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation>

Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.

Results relate only to the items tested.

This Laboratory Report shall not be reproduced except in full, without written approval of the laboratory.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.



Wisconsin State
Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

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<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 350541001

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Organic Chemistry: Al Spallato, Lab Manager, 608-224-6269

Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251

Environmental Toxicology: Tracy Hanke, Lab Manager, 608-224-6270

ATTACHMENT C

**June 15, 2018 Press Release from
Wood and Juneau County Health and
Land and Water Resource
Departments
“High Nitrate in Private Drinking
Wells”**

FOR IMMEDIATE RELEASE

6/15/18

Contact: Sue Kunferman, Health Officer, Wood County Health Department, 111 W. Jackson Street – 3rd Floor, Wis. Rapids, WI Rapids, WI 54495 (715) 421-8911, skunferman@co.wood.wi.us

Barb Theis, Health Officer, Juneau County Health Department, 200 Hickory Street, Mauston, WI. 53948, (608) 847-9373, btheis@co.juneau.wi.us

High Nitrate in Private Drinking Wells

The Wood and Juneau County Health and Land and Water Resource Departments are working to ensure that all citizens have a source of safe, clean drinking water.

[Mauston, WI] – High nitrate levels have been found in private drinking water wells of some Juneau and Wood County residents near Armenia Township (Juneau County). We urge residents to take the following actions if their well water has a high nitrate level:

- Infants less than 6 months, pregnant women, and women who may become pregnant should immediately stop using the high nitrate water for drinking or preparing foods (infant formula, soup, rice).
- Everyone should avoid long-term consumption of water with high nitrate levels
- It is ok to use the water for activities like showering and household chores.

High nitrate levels are a health risk particularly for children less than 6 months old. Women who are pregnant or may become pregnant should also pay attention to nitrate levels. To learn more about what you can do to protect yourself and your family from high levels of nitrate, see the Wisconsin Department of Health Services' (DHS') [factsheet on nitrate](#)

In May 2018, the Juneau and Wood County Health and Land and Water Departments partnered with the University of Wisconsin-Stevens Point to conduct a survey of nitrate levels in private wells to address drinking water concerns expressed by residents in the Armenia township area.

"So far, we have found that 41% of the total wells tested had nitrate levels above the groundwater standard," said Juneau County Health Officer Barb Theis. "It is important for residents with high levels of nitrate to take immediate action by using bottled water to assure a safe source of water for drinking and cooking." The groundwater standard for nitrate is 10 milligrams of nitrate per liter of water (mg/L) and is the amount of nitrate that can be in the

groundwater and be safe for drinking. The percent of wells observed with high nitrate levels, through this survey, is greater than the estimated statewide average of 9% of wells.

Both Wood and Juneau Health Departments and county conservationists are working to help residents understand their water-quality issues, and in identifying long-term solutions other than continued use of bottle water. An educational session is part of the groundwater testing program and will occur once all results are analyzed and mapped.

More information, please contact:

Juneau County Health Department: 608-847-9373

Juneau County Land and Water Resources: 608 847-7221 extn. 114

Wood County Health Department: (715) 421-8911

Wood County Land and Water Conservation : 715 421-8475

DHS' Nitrate Factsheet: dhs.wisconsin.gov/library/p-02128.htm

Department of Agriculture, Trade and Consumer Protection Groundwater Study:
datcp.wi.gov/Documents/GroundwaterReport2017.pdf

####

ATTACHMENT D

April 2018 Fact Sheet

**Wisconsin Department of Health
Services:**

“Nitrate in Private Well Water”

Nitrate in Private Well Water

Drinking water with high levels of nitrate is unsafe for everyone, but especially for babies (less than 6 months old) and pregnant women.

Test Your Well for Nitrate Every Year

Because **you cannot smell, taste, or see nitrate in your water**, the DNR (Department of Natural Resources) recommends that you test for nitrate at least once a year.

Test more often if:



Babies or pregnant women use the water.

You notice a change in color, taste, or smell of the water.

A new well is built.

You have not tested your well in the past five years.

Test right away

Test twice a year
(two tests, done 6 months apart)

Nitrate has been found in wells in every county in Wisconsin

Nitrate naturally occurs in plants and animals. Nitrate can enter groundwater from fertilizers and animal and human waste (poop).

Understand Your Well Test Results

As a well owner, you are responsible for your own water.

Your local health department can help explain your test results and options for fixing and improving your well.

If your nitrate-nitrogen level is:



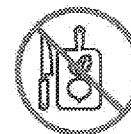
0-10 mg/L

Water is safe for drinking, preparing food, showering, and household chores.



More than 10 mg/L

Women who are or may become pregnant and babies should **immediately** stop using the water for drinking and preparing foods that use a lot of water like infant formula, soup, and rice. Do not boil the water.



Everyone else should avoid long-term use of water for these purposes.

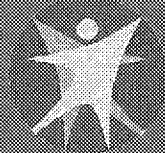


Everyone can use the water for other activities like showering and household chores.

Take Action to Fix Your Well!

The next page has options for keeping you and your family safe. Remember to regularly test your water as it can change over time.

WISCONSIN DEPARTMENT OF HEALTH SERVICES
Division of Public Health | Bureau of Environmental and Occupational Health
www.dhs.wisconsin.gov/eh | dhsenvhealth@wi.gov
P-02128 (04/2018)



Steps to take if your well has high nitrate:

1. Retest your well to confirm results

- Collect a second sample (called a "confirmation sample") to determine if the first result is accurate.
- Consider testing for pesticides as they can be found in wells with high nitrate.

2. Inspect your well

- Inspect the seal on the well cap and the above-ground casing for holes or other signs that surface contaminants may be entering the well.
- Consider having the well inspected by a licensed well driller or pump installer.

3. Protect your well from nitrate contamination

- Reduce your fertilizer use.
- Make sure your septic system is well maintained and pumped regularly to prevent overflow.

4. Use a safe water source

Use bottled water or water from a well without a nitrate problem for drinking and preparing food until you find a long-term solution. Do not boil the water from your well as this does not remove the nitrate.

5. Find a long-term solution

The following are long-term solutions to find a way to drink safe water.

\$\$ Install a water treatment system

- Work with a water treatment professional to select a certified treatment device. **DNR approval may be required before installing a water treatment system.**
- These systems require regular maintenance and testing to ensure they are working properly.
- **Point of Use (POU)** systems treat water coming from one faucet like a kitchen sink, but can use a lot of water and are not as effective with high levels.
- **Point of Entry (POE)** systems treat all water coming into the house and provide safe drinking water throughout the house.

\$\$\$ Drill a New Well

- A new well is often a permanent solution, although there is no guarantee that it will be free from contaminants. It is always important to work with a licensed well driller.
- Financial help may be available in limited situations. Check out DNR's Well Compensation Grant Program for more information.

\$\$\$ Connect to a Public Water Supply or Community Well

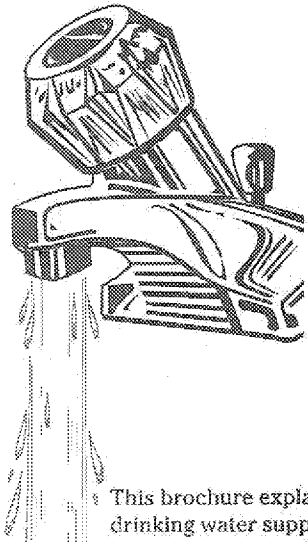
- Connecting to a public water supply can provide a permanent safe water supply; however, annexation may be required. Contact your local government with questions.
- Connecting to a community well can also provide a permanent safe water supply where costs for maintaining and testing the well are shared by multiple families.

For more information on safe drinking water, visit DHS' [water page](#).

For more information on well construction and other safe water tips, visit DNR's [well page](#).

ATTACHMENT E

**Brochure from the Wisconsin
Department of Natural Resources:
“Nitrate in Drinking Water”**



Nitrate In Drinking Water

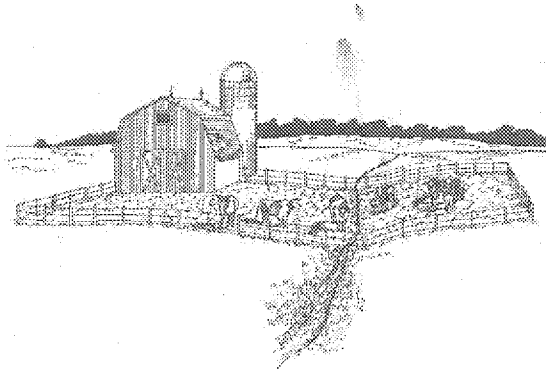
This brochure explains how nitrate can enter drinking water supplies, the health effects of nitrate exposure, when to test a private well, and things you can do to reduce the nitrate level in your drinking water. The brochure also provides sources of information and assistance that may be useful to private well owners.

What is nitrate?

Nitrate (NO_3^-) is a compound made up of nitrogen and oxygen. It is formed when nitrogen from ammonia or other sources combines with oxygen in water. Nitrate is naturally found in plants and in vegetables at varying concentrations. It is often in groundwater depending on the amount of fertilizer and manure applied to crop fields. According to the U.S. Environmental Protection Agency, most adults who are eating a balanced diet may consume 10-25 milligrams of nitrate-nitrogen per day in their food. Most of this nitrate comes from leafy vegetables like lettuce, cabbage, celery, spinach, and cured meats. Additional exposure to nitrate from contaminated drinking water may pose a significant health risk.

The Wisconsin Department of Natural Resources Bureau of Drinking Water and Groundwater would like to thank the Groundwater Coordinating Council (GCC) Education Subcommittee for its part in the development and editing of this publication. For more information on the GCC, it's member organizations and programming, please visit wisconsin.gov. Choose "Government," "State Agencies," followed by "List of Agencies" then select "Groundwater Coordinating Council."

Wisconsin Department of Natural Resources
Bureau of Drinking Water & Groundwater



How does nitrate enter groundwater?



In nature, water usually contains less than 1 milligram of nitrate-nitrogen per liter and is not considered a health concern. Significantly higher nitrate concentrations can indicate that the drinking water has been contaminated and may pose a serious health concern. Common sources of nitrate include nitrogen fertilizers, manure, septic systems and sewage treatment practices. Nitrate dissolves easily in water and does not adsorb onto the soil. It can easily be carried into the groundwater by rainwater and melting snow as they percolate through the soil and bedrock into the underlying aquifer.

Is my well at risk?

The only way to know if your drinking water contains excessive nitrate is to have a water sample analyzed by a certified laboratory. There are also several things you can check to determine your well's vulnerability to nitrate contamination.

- ◆ **Well Location.** Nitrate-contaminated wells are often located near farm fields, barnyards, feedlots, septic tanks, municipal wastewater treatment systems or "sludge" spreading sites.
- ◆ **Well casing depth and construction.** Since nitrate enters the aquifer from the ground surface, wells that have shallow casing are more likely to be affected than deeper cased wells.
- ◆ **Geology.** Areas with highly porous, sandy soils, fractured bedrock, natural caves and sinkholes, and shallow depths to groundwater are especially vulnerable to contamination. Areas with highly exposed creviced bedrock or specific geologic conditions known as "karst" limestone geology, present in much of Door County for example, may also be vulnerable to nitrate contamination.

What are the health risks of consuming water with high concentrations of nitrate?

Nitrate levels greater than 10 ppm exceed state and federal standards for nitrate in public drinking water supplies. No infant or any female who is or may become pregnant should consume any water that exceeds this standard (either by drinking or by eating foods prepared with the water such as soups, juices, and coffee). Additionally, the Wisconsin Department of Health Services recommends that all people avoid long-term consumption of water that has a nitrate level greater than 10 ppm.



In infants under 6 months of age ingestion of nitrate can reduce the blood's ability to carry oxygen. In severe cases it can cause a condition that doctors call methemoglobinemia. The condition is also called "blue baby syndrome" because the infant's skin appears blue-gray or lavender in color. This skin color change is caused by a lack of oxygen in the blood.

All infants less than 6 months of age are at risk of nitrate toxicity, but premature babies and babies with other health problems are more sensitive than healthy infants. An infant suffering from "blue baby syndrome" needs immediate medical care because the condition can lead to coma and death if it is not treated promptly.

When nursing mothers ingest water containing elevated concentrations of nitrate, the amount of nitrate in breast milk may increase slightly. Although no confirmed cases of "blue baby syndrome" have been associated with nitrate in breast milk, it may be advisable for nursing women to avoid drinking water that contains more than 10 milligrams of nitrate per liter of water.

Some scientific studies have also found evidence of an association between exposure to high nitrate levels in drinking water during the first weeks of pregnancy and certain birth defects; further scientific study is needed to confirm this association.



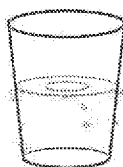
Some researchers suspect that consuming nitrate-contaminated water may increase the risk of thyroid disease, diabetes, and certain types of cancer. People who have heart or lung disease, certain inherited enzyme defects or cancer may be more sensitive to the toxic effects of nitrate than healthy individuals.

Wells contaminated with high nitrate levels are more likely to be contaminated with agricultural pesticides. If your water is contaminated with nitrate, you may want to have the water tested for pesticides, especially if your well is near farm fields.

How do I know if my water is safe to drink?

Public Water Systems

All public water systems are required to notify consumers if any regulated contaminant, including nitrate, exceeds the maximum contaminant level (MCL) that is set by the federal Safe Drinking Water Act. Municipal systems (such as city, town, or sanitary districts) and Other-Than-Municipal (OTM) systems (such as mobile home parks or condominium associations) are required to report any detection of a regulated contaminant that occurred in the previous year in their annual Consumer Confidence Report (CCR). If you would like to view your community's CCR, contact your local water supplier or visit the Wisconsin Department of Natural Resources (DNR) website at dnr.wi.gov. Search: water quality data. Then select *Drinking Water Sample Results*. A search can then be made by city or individual system.



Treatment methods are available that can reduce the levels of nitrate in the drinking water supply, but some methods may be more appropriate or cost-effective than others. In many cases the best option for a community is to drill a new well.

Residential Well Owners

The only way to know if your drinking water contains nitrate is to have a water sample from your private well tested by a certified laboratory. A list of certified labs is available online at dnr.wi.gov. Search: certified labs. A nitrate test is recommended for all newly constructed private wells and wells that have not been tested during the past 5 years. Testing is also recommended for well water used by pregnant women and is essential for a well that serves infants under 6 months of age. Wells with nitrate concentrations between 5 and 10 milligrams per liter should be tested annually. Additional testing may also be useful if there are any known sources of nitrate or if high nitrate concentrations are found in neighboring wells.

Results of water quality tests done by the State Laboratory of Hygiene are automatically reported to DNR for filing. You can find your Unique Well Number close to the sampling faucet on the water pipe entering the building from the well or on the main electrical fuse box.

What should I do if my water is high in nitrate?

If the nitrate-nitrogen concentration of your water exceeds the 10-milligram per liter standard, the following actions are recommended:

- No infant or female who is or may become pregnant should consume any water that exceeds 10 ppm nitrate.
- The Wisconsin Division of Public Health recommends that people of all ages avoid long-term consumption of water that has a nitrate level greater than 10 ppm.
- Do not attempt to remove the nitrate by boiling the water. This will only increase the nitrate concentration.
- Seek medical help immediately if the skin color of an infant appears bluish or gray. Sometimes color change is first noticed around the mouth, or on the hands and feet.
- Protect your water supply from nitrate contamination by reducing fertilizer you use, improving manure-handling methods, maintaining your septic system and pumping septic tanks regularly to prevent overflow.
- Consult a licensed well driller to help determine whether a new well could provide safer water for the long term.
- Consider treatment devices approved by the Department of Safety and Professional Services (DSPS).

Where can I get more information?

Licensed well drillers can help you determine whether drilling a well with more casing can reduce the nitrate levels in your water. Check your local phone directory under "Water Well Drilling & Service."

The Wisconsin Department of Health Services (DHS), Division of Public Health can give you more information on the potential health effects of nitrate exposure. Call (608) 266-1120 or visit the DHS website at dhs.wisconsin.gov/water.

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) can give you more information on locating potential nitrate sources. Call (608) 224-4502 or visit the DATCP website at datcp.state.wi.us

A list of certified labs is available online at dnr.wi.gov. Search: certified labs.

DNR has more information about drinking water on its website. Go to dnr.wi.gov. Search: drinking water, and select from a variety of listed topics. Find out how to deal with water quality problems by searching for "What's Wrong with My Water" on the DNR website.

The University of Wisconsin-Cooperative Extension has many publications related to drinking water and water quality available on its website. Go to uwex.edu. Search: drinking water publications

The Department of Safety and Professional Services has information on water treatment and approvals on its website at dsp.sps.wi.gov.

dsp.sps.wi.gov/php/sb-ppalopp/contam_result.php/336

Contact Us

Customer Service Staff are here to assist you.

How may we help you?

Call Toll Free 1-888-WDNRINFO (1-888-936-7463)

Or, go to dnr.wi.gov. Search: Contact

Click on one of the following options:

Chat with customer service.

Call a representative.

Email your question.



Toll free hotlines

Violation Hotline:

1-800-TIP-WDNR or
phone 1-800-847-9367
Confidentially report
suspected wildlife,
recreational and
environmental
violations.

Emergency Spill Hotline:

1-800-943-0003 phone

Bilingual Services are available

Drinking Water & Groundwater Program

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Madison, WI 53707-7921

(608) 266-1054

For more information, go to dnr.wi.gov.
Search: Drinking Water

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